

## CLAIMS

1. A method of treating cancer in an individual, comprising administering to said individual a composition comprising a polynucleotide selected from the group consisting of the nucleotide sequences in Table 5, or a polypeptide encoded by the polynucleotide.
2. The method of Claim 1, wherein said polypeptide is a human polypeptide selected from the group consisting of the polypeptides in column 3 of Table 5.
3. A method of identifying a substance which binds to a polypeptide selected from the group consisting of the polypeptides in column 3 of Table 5, said method comprising contacting said polypeptide with a candidate substance and detecting the binding of said substance to said polypeptide.
4. A method of identifying a substance which modulates the function of a polypeptide selected from the group consisting of the polypeptides in column 3 of Table 5, said method comprising the steps of: contacting said polypeptide with a candidate substance and determining the activity of said polypeptide, wherein a change in said activity in the presence of said candidate substance is indicative of said substance modulating the function of said polypeptide.
5. A method of diagnosing a cancer in an individual, said method comprising: (a) providing a biological sample of said individual; (b) contacting said biological sample with a probe comprising a fragment of at least 15 nucleotides of a polynucleotide selected from the group consisting of the polynucleotides in Table 5; and (c) detecting the hybridisation between said probe and said biological sample, wherein the presence of hybridisation is indicative of said cancer in said individual.
6. A method of diagnosing a cancer in an individual, said method comprising: (a) providing a biological sample of said individual; (b) contacting said biological sample with an antibody which binds to a polypeptide selected from the group consisting of the polypeptides in column 3

of Table 5; and (c) detecting the binding of said antibody to said sample, wherein the presence of binding is indicative of said cancer in said individual.

7. A method of modulating the expression of a polynucleotide selected from the group consisting of the polynucleotides in Table 5 in a cell, said method comprising introducing a double stranded RNA (dsRNA) which hybridises to said polynucleotide, or an antisense RNA which hybridises to said polynucleotide, or a fragment thereof, into the cell.

8. The method of claim 7, wherein said modulating is down-regulating.

9. A polynucleotide comprising a sequence selected from the group consisting of:

(a) any one of the nucleotide sequences in Example 19 or the complement thereof;

(b) a nucleotide sequence which hybridises to a sequence of (a) or a fragment thereof;

and

(c) a polynucleotide sequence which is degenerate as a result of the genetic code to said sequence(s) in (a) or (b).

10. The polynucleotide of claim 9, wherein said sequence in Example 19 is Shp2 polynucleotide sequence or its complement thereof.

11. A polynucleotide comprising a sequence selected from the group consisting of:

(a) any one of the nucleotide sequences in Example 28 or the complement thereof;

(b) a nucleotide sequence which hybridises to a sequence of (a) or a fragment thereof;

and

(c) a polynucleotide sequence which is degenerate as a result of the genetic code to said sequence(s) in (a) or (b).

12. The method of claim 11, wherein said sequence in Example 28 is Dlg1 or Dlg2.

13. A polynucleotide comprising a sequence selected from the group consisting of:
- (a) any one of the nucleotide sequences in Table 5 or the complement thereof;
  - (b) a nucleotide sequence which hybridises to a sequence of (a) or a fragment thereof;
- and
- (c) a polynucleotide sequence which is degenerate as a result of the genetic code to said sequence(s) in (a) or (b).
14. A polynucleotide comprising a sequence selected from the group consisting of:
- (a) any one of the nucleotide sequences in Examples 1 to 18, 20 to 27 and 29 or the complement thereof;
  - (b) a nucleotide sequence which hybridises to a sequence of (a) or a fragment thereof;
- and
- (c) a polynucleotide sequence which is degenerate as a result of the genetic code to said sequence(s) in (a) or (b).
15. A polynucleotide comprising a sequence selected from the group consisting of:
- (a) any one of the nucleotide sequences in Examples 1, 2, 2A, 2B and 2C or the complement thereof;
  - (b) a nucleotide sequence which hybridises to a sequence of (a) or a fragment thereof;
- and
- (c) a polynucleotide sequence which is degenerate as a result of the genetic code to said sequence(s) in (a) or (b).
16. A polynucleotide comprising a sequence selected from the group consisting of:

(a) any one of the nucleotide sequences in Examples 3 to 9 and 9A or the complement thereof;

(b) a nucleotide sequence which hybridises to a sequence of (a) or a fragment thereof;  
and

(c) a polynucleotide sequence which is degenerate as a result of the genetic code to said sequence(s) in (a) or (b).

17. A polynucleotide comprising a sequence selected from the group consisting of:

(a) any one of the nucleotide sequences in Examples 10 to 29 or the complement thereof;

(b) a nucleotide sequence which hybridises to a sequence of (a) or a fragment thereof;  
and

(c) a polynucleotide sequence which is degenerate as a result of the genetic code to said sequence(s) in (a) or (b).

18. A polynucleotide probe comprising a fragment of at least 15 consecutive nucleotides of a polynucleotide of Claim 9.

19. A polypeptide comprising an amino acid sequence selected from the group consisting of the sequences in:

(a) Example 19;

(b) Example 28;

(c) Table 5;

(d) Examples 1 to 18, 20 to 27 and 29;

(e) Examples 1 to 2, 2A, 2B and 2C;

(f) Examples 3 to 9 and 9A;

- (g) Examples 10 to 29; and
  - (h) a homologue, variant, derivative or fragment thereof.
- 20. The polypeptide of Claim 19, wherein said sequence in Example 19 is Shp2 polypeptide.
  - 21. The polypeptide of Claim 19, wherein said sequence in Example 28 is Dlg1 or Dlg2 polypeptide.
  - 22. A vector comprising a polynucleotide according to Claim 9.
  - 23. An expression vector comprising a polynucleotide according to Claim 9, which is operably linked to a regulatory sequence which directs the expression of said polynucleotide in a host cell.
  - 24. An antibody which binds to a polypeptide of Claim 19.
  - 25. A method for detecting the presence or absence of a polynucleotide of Claim 9 in a biological sample, said method comprising:
    - (a) contacting the biological sample under hybridising conditions with a probe comprising a fragment of at least 15 consecutive nucleotides of a polynucleotide having a sequence set forth in Example 19 or a complement thereof;; and
    - (b) detecting hybridisation between said probe and said sample.
  - 26. A method for detecting a polypeptide of Claim 19 present in a biological sample which comprises:
    - (a) providing an antibody that binds to said polypeptide;
    - (b) contacting said biological sample with said antibody; and
    - (c) determining binding of said antibody to said biological sample.

27. A method of treating cancer in an individual comprising administering a polynucleotide of Claim 9.
28. A method of treating cancer in an individual comprising administering a polypeptide of claim 19.
29. A method of treating cancer in an individual comprising administering an antibody of claim 22.
30. A method for identifying a substance which binds to a polypeptide of Claim 19, said method comprising contacting said polypeptide with a candidate substance and detecting the binding of said substance to said polypeptide.
31. A method for identifying a substance which modulates the function of a polypeptide of Claim 19, said method comprising the steps of: contacting the polypeptide with a candidate substance and determining the activity of said polypeptide, wherein a change in activity in the presence of said candidate substance is indicative of said substance modulating the function of said polypeptide.
32. A method of identifying a human nucleic acid sequence, by: (a) selecting a *Drosophila* polypeptide identified in any of Examples 11 to 39, (b) identifying a corresponding human polypeptide; and (c) identifying a nucleic acid encoding the human polypeptide of (b).
33. A method according to Claim 32, in which a human homologue of the *Drosophila* sequence, or a human sequence similar to the *Drosophila* sequence, is identified in step (b).
34. A method according to Claim 32, in which the human polypeptide has at least one of the biological activities, preferably substantially all the biological activities of the *Drosophila* polypeptide.